

Remarks/Arguments:

Claims 1-16 are pending in the application. Claims 1, 2, and 4 are amended herewith to more distinctly set forth their intended scope.

35 USC § 103(a)

Claims 1-3 and 6-16 are rejected under 35 USC § 103(a) as unpatentable over WO 02/25764 ("McGrath"). Claims 1-8, 13, and 14 are rejected under 35 USC § 103(a) as unpatentable over WO EP 0008894 ("Rose"). Applicants submit that neither reference teaches or suggests the features of instant claim 1, for the following reasons.

Instant claim 1 recites a polymer in which at least 80% of the monomer repeat units contain both of the following regions:

- 1) a region consisting of an aromatic backbone (with an ion conducting group such as sulfonate on each aromatic group) and
- 2) a spacer region consisting of an aromatic backbone of at least four aromatic groups, none of which includes an ion-conducting group.

The polymer will therefore contain monomer repeat units as follows:

– (ion-conducting region having at least one aromatic group – spacer region having at least four aromatic groups) –

Since these are repeat units, the number of aromatic groups in each ion-conducting region is the same and the number of aromatic groups in each spacer region is the same.

McGrath and Rose clearly do not disclose such a polymer. The Office Action suggests that one could construe some section of the prior art polymers containing several sulphonated sections as the 'ion-conducting portion,' and could similarly construe a section containing several unsulphonated sections as the 'spacer portion.' But each 'ion-conducting portion' would not necessarily have the same number of aromatic groups nor would each 'spacer portion' necessarily have the same number of aromatic groups, as inherently required by instant claim 1. Therefore, there is no specific disclosure of the claimed polymer in either McGrath or Rose. Accordingly, Applicants respectfully request that the rejection now be withdrawn.

Claims 1-10 and 13-16 are rejected under 35 USC § 103(a) as unpatentable over WO U.S. 2002/0187377 ("Shinoda").

In the present invention, the ion-conducting region is an aromatic backbone, (each aromatic group in the backbone optionally being adjacent to an electron-donating group, such as an ether or thioether group), wherein the ion-conducting property is provided by the aromatic group(s) having a pendant ion-conducting functional group attached thereto. The ion-conducting region of the polymer of Shinoda is primarily provided by the disulfonylimide $[\text{SO}_2\text{-N}^+(\text{X}^+)\text{-SO}_2]$ moiety. Although the Office Action notes that Shinoda's polymer of formula (1) might for example have a sulphonylphenylene group for Ar^1 and a 4-phenylene segment for Ar^2 , the ion-conducting region of such a polymer would not consist of an aromatic backbone with aromatic groups each having a pendant ion-conducting functional group attached thereto as claimed. Rather, the ion-conducting region would additionally include the ion-conducting $[\text{SO}_2\text{-N}^+(\text{X}^+)\text{-SO}_2]$ moiety. Applicants submit that Shinoda does not teach a polymer as claimed, and they accordingly respectfully request that the rejection now be withdrawn.

Conclusion

Applicants respectfully submit that the application is in condition for allowance, and respectfully request reconsideration and notification of same. Applicants invite the Examiner to contact their undersigned representative, Frank Tise, if it appears that this may expedite examination.

Respectfully submitted,



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